

Wave Attenuation Toolbox (WATTE): Instructions for increased compatibility

This document accompanies the Wave Attenuation Toolbox: Foster-Martinez, M., & Hagen, S. (2020). Wave ATTEnuation Toolbox (WATTE) [Data set]. Louisiana State University Libraries. https://doi.org/10.31390/civil_engineering_data.01


Make compatible with ArcMap 10.5 and earlier:

- 1) Change line 253.
original line 253: `arcpy.RasterToPolygon_conversion(output_RL, PW, "SIMPLIFY", "VALUE", "SINGLE_OUTER_PART")`

change to: `arcpy.RasterToPolygon_conversion(output_RL, PW, "SIMPLIFY", "VALUE")`

Create the complete attenuation line without the Advanced License:

If you do not have the Advanced License, the tool will run successfully, but it will not produce the Complete_Attenuation_Line. WATTE uses the “erase_analysis” tool to create this polyline, which is only available with the Advanced License. However, you can make it manually with steps listed below. These are to be completed after the WATTE tool has run and the WATTE_GDB.gdb has been created.

- 1) Add the marsh edge polyline, ME.shp, and the waves area polyline, Inp_WT0I.shp, from the geodatabase, WATTE_GDB.gdb, to your workspace.
- 2) Start an edit session (Editor toolbar dropdown menu → Start Editing). Select Inp_WT0I, and click OK.
- 3) Click on the Inp_WT0I line in your workspace to select it. Under the Editor dropdown menu, click Split.
- 4) Select “Into Equal Parts” and enter in the total length of the line divided by 10 (the line length is given at the top). This action will split the line into 10 m segments (or the unit of measure used in the map). You can adjust the number of segments created to match the resolution of your original raster.
- 5) From the Editor dropdown menu, click Stop Editing, and click save when prompted.
- 6) Under Selection, click Select by Location. Set the Selection method to “select features from.” Check the box next to Inp_WT0I. Set the Source layer to ME. Check the box next to “Apply a search distance,” and set it to 20 m. Other distances can be used depending on the raster resolution and sinuosity of the marsh edge. Twenty meters (66 ft) was determined appropriate for a 10 m raster. Click OK.
- 7) You should now see all of the places on Inp_WT0I highlighted in blue that overlap with ME. Open the attribute table for Inp_WT0I (right click it in the Table of Contents and click Open Attribute Table). Click the switch selection icon .
- 8) Right click on Inp_WT0I in the Table of Contents. Under Selection, click Create Layer from Selected Features. This new polyline is the Complete_Attenuation_Line. Note it will not match exactly the line generated from Erase Analysis, which has some smoothing, but it will be in the same location.